

## Patent Claims

What is claimed:

1. A method for patching up circuit patterns of thin-film transistor (TFT) circuits on a display panel, comprising:
  - 1 placing a mask having an opening above the display panel, wherein the opening corresponds to the location of cracks of the circuits on the display panel; and
  - 2 performing a plasma sputtering procedure to deposit a metal thin film through the opening of the mask on the display panel so as to connect the broken circuits.
2. The method of Claim 1, wherein a plurality of the TFT circuits on the display panel are exposed and the metal thin film is deposited through the opening of the mask.
3. The method of Claim 2, further comprising a laser cut-out procedure after the metal thin film is deposited to cut apart the metal thin film on the plurality of the TFT circuits so as to prevent the different TFT circuits from short circuits.
4. The method of Claim 1, wherein the TFT circuits are formed by depositing a first metal layer and a second metal layer in turn, and the first metal layer and the second metal layer are respectively made of a material selected

from the group consisting of chromium, tungsten, tantalum, titanium, molybdenum, platinum, aluminum or any combinations thereof.

5. The method of Claim 4, wherein the metal thin film is made of  
5 aluminum and is deposited to fill breaches of the first metal layer and the second  
metal layer.

6. A method for patching up circuit patterns of thin-film transistor  
(TFT) circuits on a display panel, comprising:

10 locally depositing a metal thin film on the surface of the display  
panel to completely cover a crack region of a plurality of the circuits on the  
display panel; and

15 performing a laser cut-out procedure to cut apart the metal thin film  
locally deposited on the plurality of the circuits so as to prevent the different  
circuits from short circuits.

7. The method of Claim 6, wherein each of the circuits is made of a  
material selected from the group consisting of chromium, tungsten, tantalum,  
titanium, molybdenum, platinum, aluminum or any combinations thereof.

20 8. The method of Claim 6, wherein the metal thin film is made of  
aluminum.

9. The method of Claim 6, wherein each of the circuits is formed by depositing a first metal layer and a second metal layer in turn, and the first metal layer and the second metal layer are respectively made of a material selected from the group consisting of chromium, tungsten, tantalum, titanium, 5 molybdenum, platinum, aluminum or any combinations thereof.

10. The method of Claim 9, wherein the metal thin film is made of aluminum and is deposited to fill breaches of the first metal layer and the second metal layer.

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11. A method for patching up circuit patterns of thin-film transistor (TFT) circuits on a display panel, comprising:

producing gaseous metal compounds above the display panel;  
and

15 transmitting energy to above the location of cracks of the TFT circuits to ionize the gaseous metal compounds into metal particles such that the metal particles can be deposited along the direction of the TFT circuits to cover and connect the cracks of the TFT circuits.

20 12. The method of Claim 11, wherein the gaseous metal compounds are  $W(CO)_6$ .

13. The method of Claim 11, wherein the metal particles are aluminum.

14. The method of Claim 11, wherein the step of transmitting energy is performed by laser beam irradiation.

15. The method of Claim 11, wherein the step of transmitting energy is performed by focus ion beam irradiation.

16. The method of Claim 11, wherein each of the TFT circuits is made of a material selected from the group consisting of chromium, tungsten, tantalum, titanium, molybdenum, platinum, aluminum or any combinations thereof.

17. The method of Claim 11, wherein each of the TFT circuits is formed by depositing a first metal layer and a second metal layer in turn, and the first metal layer and the second metal layer are respectively made of a material selected from the group consisting of chromium, tungsten, tantalum, titanium, molybdenum, platinum, aluminum or any combinations thereof.

18. The method of Claim 17, wherein the metal particles are deposited to fill breaches of the first metal layer and the second metal layer.